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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/286,160	04/05/1999	THEODORE E. BRUNING III	PD26112	4617

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EXAMINER
MCLEAN-MAYO, KIMBERLY N

ART UNIT	PAPER NUMBER
2187	23

DATE MAILED: 03/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/286,160	BRUNING ET AL.	
	Examiner	Art Unit	
	Kimberly N. McLean-Mayo	2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 10-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. The enclosed detailed action is in response to the Amendment submitted on January 9, 2003.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-2, 4-8, 11-16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Massiglia, The RAID Book in view of Khosrowpour (USPN: 5,991,844). Regarding claims 1, 4 and 6, Massiglia discloses a first plurality of disks (Page 151, Figure 73; Page 153, Figure 74); a second plurality of back-end controllers (RAID Engine) coupled to the first plurality of disks for organizing and presenting the first plurality of disks as a third plurality of redundant arrays of disks (Figure 73, page 151; Figure 74, page 153 - lower array management function(s)/ Mirroring Array Management Function(s)); a front-end controller (Stripe Engine) coupled to the second plurality of back-end controllers for striping the plurality of redundant arrays of disks and presenting the striped array as a virtual volume (Figure 73, page 151; Figure 74, page 153 - upper array management function/ Striping Array Management Function). Figures 73 and 74 represent the mirroring array management function(s) as multiple separate entities. The mirroring array management function controls the operations of the disk(s) attached to it and thus functions as a controller (Page 8, Section Titled "Disk Arrays"; Page 10, Section Titled "The Role of the Array Management Function in Disk Arrays"). The striping

array management function controls the operations of the disk attached to it and thus functions as a controller. Additionally, Massiglia describes the array management function(s) as a body of software or firmware which inherently executes in a hardware device. Massiglia does not explicitly disclose the front-end controller generating mirror sets from at least one of the disks in the third plurality of redundant arrays of disk received from the second plurality of back-end controllers. However, Khosrowpour teaches the concept of a controller (Figure 2, Reference 140), generating mirror RAID sets and striping RAID sets (C 5, L 31-35), which provides flexibility. In Massiglia's teachings mirroring is performed via a lower Array Management Function and striping is performed via an upper Array Management Function. In the event of a failure of the lower Array Management Function, the system would not be able to control the operation of the mirrored disks. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to also generate mirror sets from the RAID sets using the front end controller in Massiglia's system for the desirable purpose of improved reliability and flexibility.

Regarding claim 2, Massiglia discloses mirrored disks. Mirrored disks inherently consist of a pair of disks, wherein one disk is the active disk and the other disk is a spare (replacement) disk used when the active disk fails. Therefore, the system taught by Massiglia and Khosrowpour disclose the plurality of disk including one or more spare disks.

Regarding claims 5 and 7, Massiglia discloses the features cited above in claims 4 and 6, however, Massiglia does not explicitly disclose the RAID engine as a RAID 5 engine and organizing the plurality of disks as a plurality of RAID-5 sets. Massiglia does teach that a RAID 5 provides a simple mechanism for providing data protection using bit-by-bit parity (Page 102, 1st Paragraph). This feature provides reliability. One of ordinary skill in the art would have

recognized the benefits provided by a RAID 5 system and would have been motivated to organize the plurality of disks as a RAID 5 and use a RAID 5 engine with the teachings of Massiglia and Khosrowpour for the desirable purpose of increased reliability.

Regarding claim 8, Massiglia discloses an apparatus for providing a virtual volume, the apparatus comprising a plurality of back-end controllers (Figure 73 - Page 151, the lower Array Management Function(s)/ mirroring Array Management Function(s)) each configured to organize and present X N-member RAID sets (Figure 73 - wherein X is equal to one and N is equal to two), and each having N busses (Figure 73 - connections between the mirroring array management functions and the disks represented by the arrows) capable of supporting X + 1 disks (corresponding disks coupled to each mirroring array management function); a plurality of groups of X+1 disks (Figure 73, a group consists of the two disk (X + 1) coupled to a corresponding back-end controller), each group being coupled to one of the back-end controller busses (Page 151, Figure 73- busses represented by the arrows between the disk(s) and the mirroring array management functions); and a local front-end controller coupled to the back-end controllers for receiving the RAID sets as members, striping the member RAID sets, and presenting the striped RAID sets as a virtual volume (Figure 73 - Page 151, upper Array Management Function/striping array management function). Figure 73 represents the mirroring array management function(s) as multiple separate entities. The mirroring array management function controls the operations of the disk(s) attached to it and thus functions as a controller (Page 8, Section Titled "Disk Arrays"; Page 10, Section Titled "The Role of the Array Management Function in Disk Arrays"). The striping array management function controls the operations of the disk attached to it and thus functions as a controller. Additionally, Massiglia describes the array management function(s) as a body of software or firmware which inherently executes in a hardware device. Massiglia does not explicitly disclose the front-end controller

generating mirror sets from at least one of the disks in the third plurality of redundant arrays of disk received from the second plurality of back-end controllers. However, Khosrowpour teaches the concept of a controller (Figure 2, Reference 140), generating mirror RAID sets and striping RAID sets (C 5, L 31-35) which provides flexibility. In Massiglia's teachings mirroring is performed via a lower Array Management Function and striping is performed via an upper Array Management Function. In the event of a failure of the lower Array Management Function, the system would not be able to control the operation of the mirrored disks. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to also generate mirror sets from the RAID sets using the front end controller in Massiglia's system for the desirable purpose of improved reliability and flexibility.

Regarding claims 11-12, Massiglia discloses the limitations cited above in claim 8, however, Massiglia does not disclose a remote front-end controller coupled to at least some of the back-end controllers for receiving RAID sets as members, striping the member RAID sets and presenting the striped RAID sets as a virtual volume. However, Official Notice is taken that it is well known in the art to provide a redundant controller at a remote location to provide data recovery and to increase the reliability of the system in the event of an entire system failure due to disasters such as an earthquake, fire, explosion, hurricane, etc. Massiglia's local front-end controller performs the above features. Massiglia's system does not provide any measures for data recovery in the event of a failed array management function (controller). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a remote (redundant) front-end controller coupled to at least some of the plurality of back-end controllers for receiving RAID sets as members, striping the member RAID sets and presenting the striped RAID sets as a virtual volume to the teachings of Massiglia and Khosrowpour for the desirable purpose of data recovery and increased reliability.

Additionally, with respect to claim 12, as stated above in claim 8, it would have been desirable to provide a local front end controller, (which performs data mirroring and striping), which is configured to generate mirror sets from received RAID sets, to stripe the mirror sets and to present the striped mirror sets as the virtual volume to Massiglia's system and thus it would also be desirable and obvious to one of ordinary skill in the art at the time the invention was made to add a remote front-end controller which performs redundant functions of the local front-end controller to the teachings of Massiglia and Khosrowpour for the desirable purpose of data recovery and increased reliability.

Regarding claim 13, Massiglia discloses an electronic system comprising a computer (host computer (inherent); Page 6); and an apparatus coupled to the computer for presenting a virtual volume to the computer (hybrid RAID array - Figure 73, Figure 74); a first plurality of disks (Page 151, Figure 73; Page 153, Figure 74); a second plurality of back-end controllers (lower array management function(s)/ Mirroring Array Management Function(s)) coupled to the first plurality of disks for organizing and presenting the disks as a third plurality of redundant arrays of disks (Page 151, 153 - lower Array Management Function/ mirroring Array Management Function); a front-end controller (stripe engine) coupled to the second plurality of back-end controllers for striping the redundant arrays of disks and presenting the striped array as a virtual volume (Page 151, 153 - upper Array Management Function/striping array management function). Figures 73 and 74 represent the mirroring array management function(s) as multiple separate entities. The mirroring array management function controls the operations of the disk(s) attached to it and thus functions as a controller (Page 8, Section Titled "Disk Arrays"; Page 10, Section Titled "The Role of the Array Management Function in Disk Arrays"). The striping array management function controls the operations of the disk attached to it and thus functions as a controller. Additionally, Massiglia describes the array management function(s) as a body of

software or firmware which inherently executes in a hardware device. Massiglia does not explicitly disclose the front-end controller generating mirror sets from at least one of the disks in the plurality of redundant arrays of disk. However, Khosrowpour teaches the concept of a controller (Figure 2, Reference 140), generating mirror RAID sets and striping RAID sets (C 5, L 31-35) which provides flexibility. In Massiglia's teachings mirroring is performed via a lower Array Management Function and striping is performed via an upper Array Management Function. In the event of a failure of the lower Array Management Function, the system would not be able to control the operation of the mirrored disks. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to also generate mirror sets from the RAID sets using the front end controller in Massiglia's system for the desirable purpose of improved reliability and flexibility.

Regarding claims 14-15, Massiglia discloses using a second plurality of back-end controllers (lower array management function(s)/ Mirroring Array Management Function(s)), organizing first plurality of disks into a second plurality of redundant arrays of disks (Page 151, 153 - lower Array Management Function/ mirroring Array Management Function); using at least one a front-end controller (stripe engine), striping at least one of the second plurality of redundant arrays of disks together to form a virtual volume (Page 151, 153 - upper Array Management Function/striping array management function); and writing the data to the virtual volume (inherent). Figures 73 and 74 represent the mirroring array management function(s) as multiple separate entities. The mirroring array management function controls the operations of the disk(s) attached to it and thus functions as a controller (Page 8, Section Titled "Disk Arrays"; Page 10, Section Titled "The Role of the Array Management Function in Disk Arrays"). The striping array management function controls the operations of the disk attached to it and thus functions as a controller. Additionally, Massiglia describes the array management function(s) as a body of

software or firmware which inherently executes in a hardware device. Massiglia does not explicitly disclose the front-end controller generating mirror sets from at least one of the disks in the plurality of redundant arrays of disk. However, Khosrowpour teaches the concept of a controller (Figure 2, Reference 140), generating mirror RAID sets and striping RAID sets (C 5, L 31-35) which provides flexibility. In Massiglia's teachings mirroring is performed via a lower Array Management Function and striping is performed via an upper Array Management Function. In the event of a failure of the lower Array Management Function, the system would not be able to control the operation of the mirrored disks. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to also generate mirror sets from the RAID sets using the front end controller in Massiglia's system for the desirable purpose of improved reliability and flexibility.

Regarding claim 16, Massiglia discloses the features cited above in claims 4, 6 and 15, however, Massiglia does not explicitly disclose the RAID engine as a RAID 5 engine and organizing the plurality of disks as a plurality of RAID-5 sets. Massiglia does teach that a RAID 5 provides a simple mechanism for providing data protection using bit-by-bit parity (Page 102, 1st Paragraph). This feature provides reliability. One of ordinary skill in the art would have recognized the benefits provided by a RAID 5 system and would have been motivated to organize the plurality of disks as a RAID 5 and use a RAID 5 engine with the teachings of Massiglia and Khosrowpour for the desirable purpose of increased reliability.

Regarding claims 18-19, Massiglia discloses a method of storing data on a plurality of disk, the method comprises, using a plurality of back-end controllers, organizing the disks into a plurality of redundant arrays of disks (Figure 73, page 151; Figure 74, page 153 - lower array management function/Mirroring Array Management Functions; using at least one front-end

controller, striping mirror sets from the redundant arrays of disks together to form a virtual volume (page 151, 153 - upper array management function - Striping Array Management Functional Unit - Figure 73, Figure 74) and writing data to the virtual volume. Figures 73 and 74 represent the mirroring array management function(s) as multiple separate entities. The mirroring array management function controls the operations of the disk(s) attached to it and thus functions as a controller (Page 8, Section Titled "Disk Arrays"; Page 10, Section Titled "The Role of the Array Management Function in Disk Arrays"). The striping array management function controls the operations of the disk attached to it and thus functions as a controller. Additionally, Massiglia describes the array management function(s) as a body of software or firmware which inherently executes in a hardware device. Massiglia does not disclose the at least one front-end controller forming mirror sets from the redundant arrays of disk. However, Khosrowpour teaches the concept of a controller (Figure 2, Reference 140), generating mirror RAID sets and striping RAID sets (C 5, L 31-35) which provides flexibility. In Massiglia's teachings mirroring is performed via a lower Array Management Function and striping is performed via an upper Array Management Function. In the event of a failure of the lower Array Management Function, the system would not be able to control the operation of the mirrored disks. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to also generate mirror sets from the RAID sets using the front end controller in Massiglia's system for the desirable purpose of improved reliability and flexibility.

Regarding claim 20, Massiglia discloses the features cited above in claim 19, however, Massiglia does not explicitly disclose organizing the plurality of disks into a plurality of RAID-5 sets. Massiglia does teach that a RAID 5 provides a simple mechanism for providing data protection using bit-by-bit parity (Page 102, 1st Paragraph). This feature provides reliability. Hence, one of ordinary skill in the art would have recognized the benefits provided by a RAID 5 system and

would have been motivated to use a RAID 5 system with the teachings of Massiglia and Khosrowpour for the desirable purpose of increased reliability.

4. Claims 3 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Massiglia, The RAID Book and Khosrowpour (USPN: 5,991,844) as applied to claims 1 and 14 above and further in view of Griffith (USPN: 6,330,687).

Regarding claim 3, Massiglia and Khosrowpour disclose the limitations cited above in claim 1, additionally, Massiglia and Khosrowpour disclose each back-end controller including a plurality of busses (Massiglia - connections represented by the arrows in Figure 73; connections coupled to member disk 2, member 3 and mirroring array management function and connections coupled to member disk 0, member disk 1). However, Massiglia and Khosrowpour do not disclose each back-end controller bus coupled to one and only one of the disks associated with each of the redundant array of disks. However, Griffith teaches the concept of each controller being coupled to one and only one of the disks associated with each of the redundant array of disks (Figure 3, References, 1-6). Figure 3 shows that each channel reference (s) 1-6 are each connected to one of the disk from each redundant array. Channel 1 is coupled to References 40, 141, Channel 2 is coupled to References 42, 143, etc. Griffith teaches that this configuration allows one of the controllers access to the disk coupled to the other controller in the event of a failure of the other controller thereby extending the protection of the operation of the RAID system (C 43-65; Abstract). In the system taught by Massiglia and Khosrowpour the busses are coupled to one of the disk in one of the redundant arrays and not to one of the disk in each of the redundant arrays, thereby yielding the system to decreased reliability. One of ordinary skill in the art would have recognized the shortcomings of the system taught by Massiglia and Khosrowpour and would have been motivated to use the teachings of Griffith with the teachings of Massiglia and Khosrowpour for the desirable purpose of increased reliability.

Regarding claim 17, Massiglia and Khosrowpour disclose the limitations cited above in claim 14, additionally, Massiglia and Khosrowpour disclose one or more back-end controllers (Massiglia - Figure 74, mirroring array management functions), each having a plurality of busses, wherein each bus is coupled to one of the disk of one of the redundant arrays and to a spare disk (bus coupled to Member disk 2, member disk 3- spare disk and to mirroring array management function and the bus coupled to member disk 0, member disk 1- spare disk and to the mirroring array management function). Massiglia and Khosrowpour do not disclose each back-end controller bus coupled to one and only one of the disks associated with each of the redundant array of disks. However, Griffith teaches the concept of each controller being coupled to one and only one of the disks associated with each of the redundant array of disks (Figure 3, References, 1-6). Figure 3 shows that each channel reference (s) 1-6 are each connected to one of the disk from each redundant array. Channel 1 is coupled to References 40, 141, Channel 2 is coupled to References 42, 143, etc. Griffith teaches that this configuration allows one of the controllers access to the disk coupled to the other controller in the event of a failure of the other controller thereby extending the protection of the operation of the RAID system (C 43-65; Abstract). In the system taught by Massiglia and Khosrowpour the busses are coupled to one of the disk in one of the redundant arrays and not to one of the disk in each of the redundant arrays, thereby yielding the system to decreased reliability. One of ordinary skill in the art would have recognized the shortcomings of the system taught by Massiglia and Khosrowpour and would have been motivated to use the teachings of Griffith with the teachings of Massiglia and Khosrowpour for the desirable purpose of increased reliability.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Massiglia, The RAID Book and Khosrowpour (USPN: 5,991,844) in view of Bergsten (USPN: 6,282,610) and Pinson (USPN: 6,256,748).

Regarding claim 10, Massiglia and Khosrowpour disclose the limitations cited above in claim 8, however, Massiglia and Khosrowpour do not explicitly disclose the plurality of back-end controllers including primary local, redundant local, cloning, primary remote, and redundant remote back-end controllers. Massiglia discloses primary local back-end controllers. However, Bergsten teaches the concept of providing multiple remote backup storage controllers for the purpose of increased reliability (C 1, L 26-40; C 3, L 41-62; C 4, L 21-28, L 60-62; C 5, L 44-54; Figure 1). Pinson teaches the concept of providing redundant (backup) local controllers for increased reliability (Figure 3a, 4, C 2, L 55-67; C 4, L 10-56). Additionally, Official Notice is taken that the concept of off-line data backups (cloning) is well known in the art as an efficient means to provide a redundant copy of data used in the primary system/storage to provide access to the data in the event of a failure in the primary system/storage. The teachings provided by Bergsten, Pinson and that which is known in the art all provide increased reliability through redundancy and for this reason it would have been obvious to one of ordinary skill in the art at the time the invention was made to use these teachings with the teachings of Massiglia and Khosrowpour for the desirable purpose of increased reliability.

Response to Arguments

6. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

As stated previously, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some

teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it is common knowledge that electronic devices are prone to failures, which is what mirroring and RAID technology seek to improve by providing the data in another location in the event of a failure. For this reason, one of ordinary skill in the art would have recognized the benefits of the teachings in the secondary reference and would have been motivated to use these teachings with the teachings of Massiglia to provide flexibility in the system and increased reliability. The fact that Massiglia does not make this modification does not represent everyone of ordinary skill in the art and thus is it improper to assume such, considering what was well known in the art at the time of the invention. Systems are developed based on the needs of the users. In this instance, one of ordinary skill in the art would have been motivated to implement such a modification for increased reliability and flexibility. It should be noted that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Regarding Applicant's argument that Massiglia teaches away from the combining striping and mirroring in a single controller, the Examiner disagree. The fact that a reference is silent to teaching a feature does not mean that the Reference teaches away from the feature.

Regarding Applicant's argument that Massiglia does not disclose that the front-end controller presents the striped arrays as a virtual volume, Massiglia discloses, on page 151, lines 9-10, that

the upper Array Management Function layer stripes data across the virtual disks and presents a single virtual disk (volume) to applications.

Additionally, Applicant's traversal of each and every instance on which the Examiner has taken Official Notice is unseasonably challenged, since these Official Notice instances were made of record as far back as Paper Number 11, mailed on January 10, 2002. The MPEP states:

2144.03

If applicant does not seasonably traverse the well known statement during examination, then the object of the well known statement is taken to be admitted prior art. In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well known statement in the next reply after the Office action in which the well known statement was made. This is necessary because the examiner must be given the opportunity to provide evidence in the next Office action or explain why no evidence is required. If the examiner adds a reference to the rejection in the next action after applicant's rebuttal, the newly cited reference, if it is added merely as evidence of the prior well known statement, does not result in a new issue and thus the action can potentially be made final. If no amendments are made to the claims, the examiner must not rely on any other teachings in the reference if the rejection is made final.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly N. McLean-Mayo whose telephone number is 703-308-9592. The examiner can normally be reached on M-F (9:00 - 6:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Do Yoo can be reached on 703-308-4908. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7329 for regular communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2100.

Kimberly N. McLean-Mayo
Examiner
Art Unit 2187

KNM

March 1, 2003